

REMARKS/ARGUMENTS

The Office Action mailed November 22, 2004 has been carefully reviewed. Reconsideration of this application, as amended and in view of the following remarks, is respectfully requested. The claims presented for examination are: claims 11-16. Claims 1-10 stand "withdrawn" as directed to a non-elected group.

35 USC 102(b) Rejection

In numbered paragraph 7 of the Office Action mailed November 22, 2004, claims 11-15 were rejected under 35 USC 102 (b) as allegedly being anticipated the Biasse et al reference (U.S. Patent No. 5,656,181).

Response to 35 USC 102(b) Rejection

Applicants have amended independent claim 11. Claims 12-15 depend from amended claim 11; therefore, claims 12-15 are now also effectively presented in amended form. Since claims 11-15 now appear in amended form, the 35 USC §102 rejection in the Office Action mailed November 22, 2004 no longer applies.

Applicants respectfully submit that the Biasse et al reference does not show many of the structural elements of amended claims 11-15 now presented for examination. For example, the Biasse et al reference does not show Applicants' claim element, "an annealed open microchannel that has been produced by annealing." In addition, the Biasse et al reference does not show Applicants' claim elements, "etched open microchannel in said etched substrate" or "wherein said etched open microchannel and said annealed open microchannel comprise said sealed open microchannel."

Applicants' claim element, "an annealed open microchannel that has been produced by annealing," of amended claims 11-15 is not the – waveguide 38 – of

the Biasse et al reference. The “waveguide 38” of the Biasse et al reference is produced by a standard ion exchange procedure (Col. 3, line 67 and Col. 4, lines 1-3 of the Biasse et al reference.) The Biasse et al reference “waveguide 38” is produced by a standard process and the glass substrate containing the waveguide 38 is subsequently annealed. The Biasse et al reference “waveguide 38” is not produced by the annealing process.

Also, in the Biasse et al reference the “waveguide 38” is not “open,” but instead is filled with silver as stated in the Biasse et al reference, “depositing silver on the faces of each half-cavity” (Col. 3, line 11 of the Biasse et al reference.)

Applicants’ claim element, “an annealed open microchannel that has been produced by annealing,” of amended claims 11-15 is very different from the silver filled half-cavity 38 of the Biasse et al reference. As described in Applicants specification, in paragraph [0020], “the glass in fused device 14, composed of substrate 10 and cover or top plate 12, softens, increasing diffusion rates. When held at temperatures for a long enough time (2 to 24 hrs.), the microchannel cross-section will eventually become circular to lower its overall surface energy. This results in an end product or glass device 14 having a circular microchannel 15, sealed therein, as shown in Figure 3.”

As stated in Verdegaal Bros. v. Union Oil Co. of California, 814 F.2nd 628, 631 USPQ 1051, 1053 (Fed. Cir. 1987), “A claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described in a single prior art reference.” Since the structural elements of amended claims 11-15 now presented for examination are not shown by the Biasse et al reference, the rejection is unsupported by the art and should be withdrawn.

35 USC 103(a) Rejection

In numbered paragraph 9 of the Office Action mailed November 22, 2004, claim 16 was rejected under 35 USC 103 (a) as allegedly being unpatentable over the Biasse et al reference (U.S. Patent No. 5,656,181).

Response to 35 USC 103(a) Rejection

Applicants have amended independent claim 11. Claim 16 depends from amended claim 11; therefore, claim 16 is now effectively presented in amended form. Since claim 16 now appears in amended form, the 35 USC §103 rejection in the Office Action mailed November 22, 2004 no longer applies.

Applicants believe that claim 16 is patentable and that the Biasse et al reference would not support a 35 USC §103(a) rejection. The factual inquiries set forth in Graham v. John Deere Co., 383 U.S. 1, 148 USPQ 459 (1966) that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) include "Ascertaining the differences between the prior art and the claims at issue."

The differences between the Biasse et al reference and Applicants' invention defined by claim 16 includes the fact that the following elements of claim 16 are not found in the Biasse et al reference:

"an annealed open microchannel that has been produced by annealing," or

"etched open microchannel in said etched substrate," or

"wherein said etched open microchannel and said annealed open microchannel comprise said sealed open microchannel," or

"said annealed microchannel has depth of about 10 µm and a width of about 20 µm and said annealed microchannel is a high temperature annealed microchannel annealed in the 600° to 800° range."

Applicants' claim element, "an annealed open microchannel that has been produced by annealing," of claim 16 is not the – waveguide 38 – of the Biaasse et al reference. The "waveguide 38" of the Biaasse et al reference is produced by a standard ion exchange procedure (Col. 3, line 67 and Col. 4, lines 1-3 of the Biaasse et al reference.) Also, in the Biaasse et al reference the "waveguide 38" is not "open," but instead is filled with silver as stated in the Biaasse et al reference, "depositing silver on the faces of each half-cavity" (Col. 3, line 11 of the Biaasse et al reference.)

Applicants' claim element, "an annealed open microchannel that has been produced by annealing," of claim 16 is very different from the silver filled half-cavity 38 of the Biaasse et al reference. As described in Applicants specification, in paragraph [0020], "the glass in fused device 14, composed of substrate 10 and cover or top plate 12, softens, increasing diffusion rates. When held at temperatures for a long enough time (2 to 24 hrs.), the microchannel cross-section will eventually become circular to lower its overall surface energy. This results in an end product or glass device 14 having a circular microchannel 15, sealed therein, as shown in Figure 3."

Applicants' have demonstrated why claim 16 now presented for examination is patentable over the Biaasse et al reference and submit that the rejection is unsupported by the art and should be withdrawn.

SUMMARY

The undersigned respectfully submits that, in view of the foregoing amendments and the foregoing remarks, the rejections of the claims raised in the Office Action dated November 22, 2004 have been fully addressed and overcome, and the present application is believed to be in condition for allowance. It is respectfully requested that this application be reconsidered, that the claims be allowed, and that this case be passed to issue. If it is believed that a telephone conversation would expedite the prosecution of the present application, or clarify matters with regard to its allowance, the Examiner is invited to call the undersigned attorney at (925) 424-6897.

Respectfully submitted,



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Livermore, California
Dated: January 31, 2005